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A
PROBATIONARY ESSAY

ON

SCROFULA,

SUBMITTED,

BY AUTHORITY OF THE PRESIDENT AND HIS COUNCIL,

TO THE EXAMINATION OF THE

Royal College of Surgeons of Edinburgh,

WHEN CANDIDATE

FOR ADMISSION INTO THEIR BODY,

IN CONFORMITY TO THEIR REGULATIONS RESPECTING THE

ADMISSION OF

ORDINARY FELLOWS.

BY

SAMUEL ALEXANDER PAGAN, M.D.

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TO
JOHN M'KENZIE, Esq. M.D.

THIS SHORT
T R E A T I S E

IS
DEDICATED, AS A PROOF OF THE ESTEEM AND AFFECTION WITH
WHICH HE IS REGARDED BY

THE AUTHOR.

ON
SCROFULA.

SCROFULA, in its ordinary acceptation, is a term extremely vague and indefinite. In a physiological sense, it implies a peculiar condition of the system compatible with perfect health, but little capable of resisting morbid impressions ; and modifying disease so far as to give a certain resemblance to the symptoms, whatever texture of the body may be affected. As a generic term, it is applied to various diseased actions, arising from, or as modified by, the above condition ; and, specifically, nosologists have restricted the meaning to an affection of the absorbent system, apparently because, in the progress of a scrofulous person from infancy to puberty, it is often in these glands the disease makes its first appearance.

It will be convenient, in treating this subject, to separate distinctly the physiological from the pathological sense of the term, as by so doing, some ambiguity and points of controversy will be the more readily avoided.

OF THE SCROFULOUS DIATHESIS.

This must be regarded strictly as a physiological condition of the system, apart altogether

from the idea of actual disease. Thousands, in whom we know or presume it to exist, pass through life without the occurrence of a single specific symptom ; and in tropical countries the disease is little, if at all known, though we judge the natives to possess the diathesis in a greater or less degree almost universally, from the fact of their seldom escaping some form of Scrofula, when subjected, for any length of time, to the influence of our cold and moist climate.

We judge from various facts and circumstances, that this state consists in some peculiarity,—some deviation from what we conceive to be the standard of perfect organization, in the solids of the body, but which we cannot demonstrate in a manner at all satisfactory to our senses. We know it to be connected with original structure, from its being, generally speaking, congenital, and derived from parents or progenitors similarly constituted, and from being very permanent in its operation through all the stages of life. We know it to be so extensive in its operation, that, wherever inflammation can take place, there its modifying influence may extend, for there is no organ or texture of the body that has not occasionally been found the primary seat of scrofulous diseases.

That this condition is to be looked for as having its seat in the muscular fibre generally, rather than in any particular organ, is

most probable. The importance of that tissue to all the functions of life, and to what physiologists understand by the term *action*, is so great, that an inconceivably minute deviation in structure, may make all the difference between a sound and a scrofulous constitution. This idea is sanctioned and strengthened by analogy, derived from the physical properties, and tangible structure, by which a highly scrofulous individual is characterised.

The following sketch is substantially, and almost *verbatim*, taken from the lectures of Sir Astley Cooper. Though it is no doubt descriptive of extreme cases, yet I apprehend it to be applicable to every one,—any difference being rather in degree than in kind.

The figure in early life is limber, and the voluntary muscles little developed; the skin thin and transparent, quite different from that of a vigorous child, in whom, when pinched, it feels comparatively firm and dense. When blood is drawn it coagulates imperfectly, the clot is soft, easily broken down, and bears a small proportion to the quantity of serum.* The pulse is generally above the ordinary standard, and deficient in firmness.

On dissection, says he, you find extreme at-

* John Hunter demonstrated the remarkable sympathy and connexion that subsist between the coagulability of the blood and the state of muscular contractility.

tenuation of the muscles, from the fibres being delicately formed ; the heart weak, and very different in appearance from the healthy organ ; you find the arteries with loose coats, and so weak that they cannot resist the distending force of injections, but easily give way. The stomach, and intestinal canal, are thin and pellucid.

These appearances all indicate some peculiarity to exist in the material properties* of the moving fibre, and would lead us to suppose it below the standard of perfect organization. Feebleness is visible every where, not in the voluntary muscles merely, but in all the muscular sacs and tubes, and doubtless extends into the nutrient or capillary system of vessels. The physical power of the fibre would seem to be defective, as compared with its organic life.

* By material properties, I would be understood to mean the chemical composition and mechanical structure of the ultimate fibre. Bostock Elem. of Phys., I. 210.* *et seq.* examines the doctrines of the chemical and mechanical physiologists, and admits, “there are striking facts and analogies which go to prove that there is a very intimate connexion between the chemical composition of the fibre, and its contractile power.” That the same “intimate connexion” subsists between contractility and the structure or arrangement of particles constituting fibre, is still more certain, but farther than this *intimate*, or probably *essential* connexion, no rational person, I think, can go. Organization goes for nothing without vitality; but it is, nevertheless, essential to action and function.

There is an evident and specific difference between this state and occasional debility arising from defective nutrition or disease ; but, except that the one is original and permanent, and the other artificial and transitory, I do not know that we can, *a priori*, ascribe any character to the one, which is not applicable to the other condition, in a physiological point of view. In both we find present that relation of the vital powers to external agents, constituting irritability ; in both there is a disposition to abnormal action ; and in both there is want of power ; but the phenomena presented by disease in the two states are, nevertheless, sufficiently distinct, though these also have many characters in common.

The observation and experience of most European surgeons warrant them in concluding, that this state of fibre is most frequently found to exist in persons of a fair complexion, with light silky hair, and blue eyes. I am by no means inclined to dispute an opinion so long and so generally entertained, but I cannot persuade myself that there is any essential relation between the two states, for we see the most robust and vigorous men of this complexion. There is high authority for stating, that Scrofula is often observed in its worst forms in persons of a totally different aspect ; and it has been already remarked, that the dark varieties of our species are peculiarly subject to it, when exposed to the ordinary exciting causes. The

tumid belly and upper lip, generally enumerated among the external characteristics, I apprehend to be a proof of incipient disease; but, after all, these signs are so little to be relied on, except in extreme cases, that few men would take upon themselves to pronounce any individual Scrofulous, in the absence of the disease itself, or of the knowledge of its existence in the family.

Of the hereditary nature of the Scrofulous Diathesis many authors speak in a tone so desponding, that they would lead us to suppose it a leaven of disease, which, once introduced into a family, has an inveterate tendency to propagate itself in all succeeding generations, and without a chance of being eradicated. Many facts, however, militate against such a conclusion. Scrofulous diseases, for example, do not appear to have increased in a *ratio* at all incommensurate with population,—the average duration of human life *has* increased, and man, in all physical qualities, is probably as perfect *now* as he ever has been at any former period. Scrofula, no doubt, may be introduced by intermarriage into healthy families, on the one hand; but so, on the other, it may be rooted out by a similar act on the part of Scrofulous ones.

Practical authors seem to admit, that a condition of the system so perfectly analogous to that under consideration, as not to be distinguished from it in the present state of our

knowledge, *may be acquired*. Thus, after long protracted Typhoid Fevers, or among the children of poor people in large cities, inhaling from birth a contaminated atmosphere, imperfectly nourished and defended from the weather, the symptoms of Scrofula, in its various forms, have been often observed in individuals whose parents and progenitors were free from all suspicion of the Diathesis. Whether such have transmitted it to their posterity does not appear, but it strikes me as a fair inference from the fact, that children born *with* the Diathesis, should, under favourable circumstances and proper management, have their constitution so far ameliorated as to leave no trace of what it originally may have been.

With regard to the means necessary for the accomplishment of so desirable an end, and for warding off, generally, attacks of Scrofula in those predisposed to it, there is no doubt that a change to a warm and dry climate is the only thing like a specific; for, indeed, the disposition appears to be little else than a peculiar delicacy of the system, on which the cold and moisture of our climate act continually as an exciting cause of disease. As such plan, however, is perfectly chimerical, or its execution only practicable in one of a hundred thousand cases, we must endeavour to guard against these perpetually operating causes, by great attention to the functions, particularly of the skin and digestive organs. These are to be regulated and preserved in a

state of integrity by general regimen and diet. Cleanliness is of the utmost importance, and daily ablution of the whole body, in winter and summer, ought to be steadily persevered in : after each, the skin should not only be dried, but diligently rubbed with a coarse cloth till brought into a glow. Flannel should be worn next the skin at all seasons of the year during the day, and frequently changed. Children are often kept too warm at night, so as to be wasted with perspirations, and again in the daytime are chilled from imperfect clothing. This is a fruitful source of disease in Scrofulous subjects. At all times, their covering should be comfortable without heating. Free and unrestrained exercise in the open air is of great importance, though the policy of encouraging violent gymnastic feats is questionable, because the laxity of the muscular fibre in Scrofulous children renders their joints peculiarly liable to twists and sprains; and it is remarkable how slight an accident of this sort will sometimes lead to loss of limb, or even of life.

An occasional change of air is probably conducive to health in all individuals ; in the weak, however, its good effects are most perceptible. A residence, therefore, by the sea-side has acquired great celebrity as a prophylactic, and no doubt, deservedly, in cases where people come to it from inland parts of the country or large towns. The inhabitants of maritime districts, however, have no peculiar exemption from at-

tacks of Scrofula; and it is probable they may derive equal advantage by an occasional removal inland. Cold bathing is a good tonic, and I dare say, immersion in the open sea is the best form in which it can be employed, provided the patient possess sufficient vigour to withstand the shock without inconvenience, and that this be followed with that glow and general re-action on which the good effects of this remedy so much depend,—the surest criterion at once of its safety and utility. In opposite circumstances, the tepid bath will be an excellent substitute.

With regard to diet, there seems to be perfect unanimity in the profession, in recommending one rather generous in quality. Animal food should certainly constitute a part of it; some men of great experience seem to think a principal part. Others are high in commendation of one chiefly of milk and the *farinaciæ*; but if each be plain and nourishing, and taken in moderation, I do not doubt that a due admixture of these, and of some plain boiled vegetables once a-day, will conduce to the preservation of health in the Scrofulous, as in the most vigorous constitutions. In short, whatever tends to brace and invigorate the frame, without inducing fulness or obesity, will also be serviceable in warding off attacks of Scrofula, and, possibly, even may have the effect of eventually eradicating the predisposition itself,—a great encouragement to perseverance.

There is a fact regarding this state of the system, which should probably be noticed here—I mean the deleterious influence of mercury upon it, when administered injudiciously, or in excessive quantity. The popular prejudices are strong on this point; and I have no doubt, from the practice pursued till lately in the cure of Syphilis, that they were founded on sad experience. There is less cause of complaint now, but we still see loathsome objects present themselves from under the hands of quacks and impostors, victims apparently to the united operations of mercury, Syphilis, and Scrofula. Though I am disposed to think that there are few instances in which mercury may not be administered for the cure of Syphilis with perfect safety, and without extraordinary risk of untoward consequences, under the eye of a judicious practitioner; I cannot deny that it is a prodigious source of comfort to know, that it *can* be cured without the aid of this mineral, and that in scarcely any instance is it necessary to push it to the extent formerly deemed essential to safety.

OF SCROFULOUS INFLAMMATION.

IN the ordinary acceptation of the term, inflammation may be considered almost synonymous with diseased action. In this light every form of Scrofula may be pronounced inflammatory, or, rather, to be inflammation modified by the condition we have been considering.

But in the external parts of the body, we have really all the phenomena constituting inflammation so well marked, as to render the distinction between the simple and specific difficult, or impossible, in the first stage. This is so much the case, that if we be not previously acquainted with the habit of our patient, we have often the first intimation of it from the slow progress of the symptoms, and the ill success of our remedies. The general character, however, of Scrofulous inflammation is *chronicity*; for, however acute at the commencement, it has a tendency speedily to assume this form, and finally to merit the epithet of specific. It is the secretion or degeneration which accompanies this latter stage that forms the great pathognomonic character of Scrofula, and serves to identify it in all organs and textures of the body. This secretion is of a yellowish white or greenish hue; of a firm consistence at first, but, as suppuration advances, it becomes partly detached, and floats in a fluid resembling whey, in curd-like flakes, while part continues to adhere tenaciously to the parietes of the cavity, preventing or retarding granulation. In the lungs it occasionally acquires a consistence approaching that of cartilage, and appears, when of long standing, to be capable of assuming the function of a secreting membrane, in which case a puriform fluid is discharged.

This characteristic matter is found to occupy the lymphatic glands; it is found in the inter-

stices of Scrofulous bones ; and, in the form of tubercle, affects all the great viscera and secreting glands. In its chemical qualities, it resembles albumen, which would seem, in Scrofulous diseases, to take the place of, or to be mingled with, the coagulable lymph, in such quantity, as to render the latter fluid incapable of being readily organised.

The process of suppuration proceeds slowly and imperfectly ; the skin becomes reddish, afterwards livid ; and, losing its vitality, sloughs or gives way, when a Scrofulous ulcer succeeds. This, too, is slow and unsatisfactory in its progress. The skin remains livid for some distance around the sore, becomes paler and glossy as it approaches its margins, which it often overlaps, so that a probe may be carried under it for the whole circumference. The surface of the ulcer is peculiar ; the granulations indistinct and flabby ; the discharge copious and unhealthy. The healing process, of course, is tedious. It often takes place under a yellowish scab, formed by the discharge becoming more consistent, and which being detached, shows at length an irregular cicatrix, covered by a very thin cuticle. This retains a deep red colour for a long time, and the scar lasts for life.

Sinuses of a troublesome and intractable nature are apt to succeed to Scrofulous abscesses, but this species of inflammation is rarely followed by mortification.

Of the constitutional symptoms attendant on

Scrofulous inflammation, it may be said, generally, that the primary fever is mild; but in the progress of symptoms there is a marked tendency to the early supervention of hectic, which in all severe cases is a source of much complexity and danger.

OF DISEASES REPUTED SCROFULOUS.

DR THOMSON remarks, that Scrofula may ally itself with, and aggravate every disease to which the human frame is subject. Regarded in the light of some physical peculiarity of the muscular fibre, it is obvious that the Diathesis may extend its influence to every organ and texture of the body in which the process of inflammation or diseased action can be carried on. Though this may be true generally, there are certain diseases which, *par excellence*, deserve the epithet of Scrofulous, because we do not see them in sound healthy constitutions. Of these, Pthissis Pulmonalis, Tubercular Diseases of the viscera and membranes, Tabes Mesenterica, &c. are purely medical.

Putting certain malformations out of the question, and a species of ophthalmia, to which they are said to be subject, the first disease with which Scrofulous children are generally attacked, is an affection of the lymphatic glands. One or more of these begin to swell imperceptibly, without discolouration or pain, except on pressure. The progress of this will depend on the irritability or indolence of the

habit. It may continue in this indolent state for weeks, or months, or years, with occasional exacerbations, and at times perfectly stationary. The exacerbations are most apt to take place in the spring or autumn, or during the irritation of teething, or from the eruptive and exanthematous diseases to which childhood is liable ; or derangement of the digestive organs will have a similar effect. Proceeding thus, in a longer or shorter period, the whole phenomena of Scrofulous inflammation, with its sequelae, as already described, are exhibited.

The glands of the neck are most frequently the seat of this disease, probably from their being most exposed to vicissitudes of temperature, and probably also from their vicinity to the source of irritation in the first and second dentition.

This form of Scrofula is seldom attended with danger, though cases are on record of these enlargements proving fatal, by their pressure on the trachea or jugular vein causing suffocation or apoplexy. If allowed to run its course, however, scars remain which are peculiarly dreaded by parents, particularly if the child be a female. This is so natural, that it is the great object of the surgeon to prevent such a result by every means possible. For this purpose, he will put the patient on a course of laxatives or purgatives, according to his habit, and he will combine these with alterative doses of mercury, if the state of the secretions demand it. These

will be followed by, or alternated with tonics. The antiphlogistic regimen is to be cautiously adopted in such cases, and will seldom bear to be pushed to any extent. The diet should be simple, nourishing, and chiefly animal. The warm salt-water bath daily will be found highly useful. I mention no particular medicines, for I am persuaded there is no specific for Scrofula. Iodine, indeed, has acquired some celebrity of late, and I am certain I have seen it do good service in Scrofulous affections, but only, in all probability, as a general tonic; locally, its virtues as a discutient are less equivocal.

The local treatment must depend on the stage of the complaint. When the tumour is indolent, little painful, and the skin over it natural in colour, there is a hope of discussing it, and for this purpose every practitioner has his own favourite method. Professor Russell commends simple continued friction very highly; a little flour only being interposed between the hand and skin, to prevent abrasion. The unguentum hydriodatis potassae, or equal parts of it, and the camphorated mercurial liniment, has appeared to me to possess excellent discutient properties; but possibly its effects were heightened by the friction which accompanied its application. In all cases where friction is recommended, it will be well to watch the effects pretty narrowly, for it sometimes proves too stimulating; and unless any temporary increased action be promptly subdued by

local bleeding, the event we seek to avert will be hastened by the very means employed. Counter irritation by blisters, tartar emetic ointment, and even issues, have been used and well spoken of. The two former may, no doubt, be advantageous in some cases, but by the latter, unless the symptoms are very threatening indeed, we shall only gain one sore and scar certainly, for another that is but contingent. The effects of gentle and continued pressure are extremely satisfactory, where the situation admits of its being employed. Saturnine and astringent lotions have been long recommended in systematic works; and yet I apprehend that their advantage is but equivocal, to say the least of it. Dr Hamilton speaks favourably of the hemlock poultice.

Do what we will, however, these glandular enlargements will often slowly and obstinately hold on their course to suppuration. But even in this case, surgery may do much in lessening, if not in altogether preventing the disfiguration that is apt to follow. On this point of practice, the precepts of Sir Astley Cooper, as delivered in his lectures, appear to me so good, that I cannot do better than copy them. After observing, that a surgeon, with the least regard to his own reputation or the happiness of others, is bound to pay the most scrupulous attention, in order to prevent the occurrence of scars on the neck, he goes on to say,—“ I will tell you why these are so frequently met with. The surgeon waits too often till the skin has become li-

vid, and then makes a puncture. But in this case he gains nothing by making an opening into the gland. In fact, if the skin be of a livid colour, I advise you then not to make an opening. Apply poultices, and let Nature effect the opening; for the scar will not be so great then as if you were to make it. Watch for the moment when there is the slightest blush on the skin, and the smallest fluctuation can be felt. The instrument with which I open these abscesses is a cataract knife; and I make the incision transversely, and just in the direction of the creases of the neck, so that when the wound heals, no scar is to be perceived." After the puncture, he recommends all the matter contained in the gland to be squeezed out most carefully;—that which is fluid will of course escape spontaneously, but the solid-adhering Scrofulous matter must be carefully removed; after which the cavity will often granulate kindly, or if indolent, we may inject into it a pretty strong solution of the sulphate of zinc.

ULCERS.

Scrofulous Ulcers, however, are the result of these abscesses but too frequently. They also take place on the faces of Scrofulous persons, in the form of superficial abrasions,—the skin being discoloured, and yellowish scabs interspersed to a considerable extent of surface. Further, there are tubercles of an ovoid figure, which seem to have their seat in the subcutaneous cellular texture: they appear in different

parts of the body—sometimes hard, and circumscribed,—sometimes soft, and as if containing a fluid; they give but little pain or constitutional disturbance; and while some of them spontaneously disappear, others take on the suppurative process, and, proceeding like very indolent boils, end in ulceration. The Scrofulous Diathesis, too, gives its character to ulcers of the legs, and, in fact, of any other part of the body.

Ulcers of this nature partake of the general want of healthy action exhibited in the other stages of Scrofulous inflammation. They are indolent, and occasionally irritable or overacting, particularly if the periosteum or bone under them happen to be diseased. Though of a specific character, in one sense of the term, there is no specific remedy for them, and they therefore are to be treated on the ordinary principles of surgery.

After the breaking of a Scrofulous abscess, poultices, as in other cases, must be kept applied till any undue redness or inflammation of the surrounding skin be removed,—till the ragged edges are partially absorbed, and until the surface of the sore shows something of a clean and healthy aspect. After this, it should receive as firm support from bandaging as its situation will admit of. On the legs, the method with adhesive straps is the most effectual. Of applications and dressings, some practitioners are favourable to the use of lotions,—some to unctuous substances, and others to dry powders. In many cases, we may have oc-

casion to try all the forms before we find one perfectly suitable, for such sores are often obstinate and capricious. In whatever form we use them, it is to be remembered, that support and moderate excitement rather than stimulation, is the object in view in ordinary cases. Simple cold water, sea water, or a weak nitric acid lotion, applied by means of pledgets of lint, and frequently renewed, are probably the best fluid applications. Of ointments and cerates, those of zinc and lead are employed as ordinary dressings, and that of the red oxide of mercury occasionally, when a stimulus is thought requisite. When the ulcer is indolent and foul, a pitch-plaster of moderate consistency will often have a very favourable effect; it should be applied so as to combine moderate pressure and support with the stimulus of the ingredient composing it.

The above is the most frequent, though not the most dangerous form, in which Scrofula shows itself. Children under two years of age are seldom affected; we meet with it most frequently between this and the period of puberty; but no age is exempt from it. It is totally incapable of being communicated by infection or contagion. Numerous attempts have been made (in the way of experiment) to propagate Scrofulous diseases, by inoculation, and every other means; but they have always proved abortive. This sets at rest the notion of some authors, that, like Syphilis, Scrofula is, in the primary

stage, merely a local affection of the lymphatic glands; and that all the subsequent appearances are to be regarded in the light of secondary symptoms, arising from absorption.

The limits which custom has prescribed to an essay of this sort, preclude the possibility of entering at large into the history or treatment of the many other important diseases connected, more or less exclusively, with the Scrofulous Diathesis. In the organs of sense, it gives a peculiar character to inflammation of the eye, and to inflammation and disorganization of the internal ear. It affects the secreting glands, particularly the mamma, the testicle, and the prostate. These are sometimes found almost converted into a Scrofulous mass.

The spongy bones are very subject to Scrofulous inflammation and suppuration, giving rise to a lamentable train of symptoms. Psoas abscess is generally the result of this affection in the vertebrae, and white swelling of the joints, when it takes place in the extremities of the long bones. But each of these is of sufficient importance to demand a separate treatise for itself; and I close these observations, therefore, with an apology for venturing to mention them even in this imperfect and cursory manner.



